

### Abstract

Magnetic stripe documents are identified and authenticated on the basis of repeatable magnetic characteristics of a stripe recorded with digital data and waveform characteristics of the sensed digital data. Stripes are sensed to provide an analog signal, only the portion storing leading zeros being used. Cyclically, the leading-zero portion is sampled and digitized to provide a target number of samples using a frequency locked loop. The target number of samples is then reduced by a selection process that attains a predetermined number of digital samples from central locations in magnetized portions of the record specifically, spaces between data transitions. Selected groups, each of a predetermined number of digital samples, are then combined to provide magnetic characteristic data. Such data is then combined with waveform data (range) to provide an identification word. Documents are verified by correlating reference and sensed identification words. One or several reference identification words also may be tested for excessive similarity suggesting a fraudulent copy.